Product Evaluation

The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

Evaluation ID: RC-546

Effective Date: August 1, 2017
Re-evaluation Date: July 2021

Product Name: Tremco AlphaGuard BIO Liquid Applied Roofing Systems

Manufacturer: Tremco, Inc.
3735 Green Road
Beachwood, OH 44122
216-752-4400

General Description:

- **BURmastic Composite Ply HT** is a polyester/glass, scrim/glass mat trilaminate reinforcement coated with SBS modified waterproofing asphalt roof cover sheet.
- **BURmastic Composite Ply Premium** is a polyester/glass/polyester trilaminate reinforcement coated with waterproofing asphalt roof cover sheet.
- **BURmastic Composite Ply Supreme** is a polyester/glass/polyester trilaminate reinforcement coated with waterproofing asphalt roof cover sheet.
- **POWERply 300 Smooth** is a fire resistant, smooth surfaced reinforced SBS modified bitumen membrane.
- **POWERply HE Smooth** is a smooth surfaced polyester reinforced SBS modified bitumen membrane.
- **POWERply Plus HT Smooth** is a fire resistant, smooth surfaced fiberglass reinforced SBS modified bitumen membrane.
- **POWERply APP Base Sheet** is a fiberglass reinforced APP modified bitumen base sheet.
- **AlphaGuard BIO Base Coat** is a two-part, bio-based, polyurethane roof coating used with fiberglass mat or polyester reinforcement.
- **AlphaGuard Glass Mat or AlphaGuard Polyester Mat** is a medium-fine fiber, rapid wetting chopped strand mat.
- **AlphaGuard BIO Top Coat** is a two-part, bio-based, polyurethane top coating.

Limitations and Installation:
General installation Requirements:
All IRC and the IBC requirements must be satisfied and manufacturer's installation instructions followed, unless otherwise specified by this product evaluation.

For All applications: Roof decks, in which this product is to be installed upon, must be provided with positive drainage. A minimum roof slope after construction of ¼" per foot is recommended.

Prime decks were required, in accordance with requirements and recommendations of the primer and deck manufacturer (if applicable). For re-roofing and re-cover applications, prime existing roof surfaces as necessary with an asphalt primer meeting ASTM D-41 specification and allow to dry prior to installing the Tremco roofing system.

Installation over an Existing Roof Covering (Roof Recover):
Inspection of Roof Covering Recover Installation: Inspection of the roof covering recover installation must be by a Texas Department of Insurance appointed engineer. The Texas Department of Insurance appointed engineer must determine if the roof framing can support the combined weight of the existing roof covering and the roof covering recover.

Roof Covering Replacement versus Roof Covering Recover: All existing roof coverings must be completely removed and a new roof covering installed if any of the following conditions occur:

- The existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for the additional roof covering.
- The existing roof has two or more applications of any type of roof covering.

Positive Drainage: The maximum allowable spacing of the roof framing must be as specified in the evaluation report.

Roof Deck: The existing roof deck must be as specified in each assembly listed in this evaluation report. The underside of the roof deck must be examined by the Texas Department of Insurance appointed engineer for corrosion or deterioration. If corrosion exists, then it must be treated with a rust inhibitor. A fastener withdrawal resistance test must be conducted in the corroded or deteriorated area to determine if the withdrawal resistance of the fastener complies with the minimum fastener requirements for the roof covering recover application. If the tested fastener fails to comply, then the deteriorated roof deck must be replaced.

Fastener Withdrawal Resistance: The fastener withdrawal resistance must be conducted in accordance with ANSI/SPRI FX-1-2006 and this evaluation report.

Fasteners used for the installation of the roof covering recover to the existing roof deck must be as specified in the Installation Instructions section of this evaluation report. For the withdrawal test, the fasteners must be installed in the existing roof deck as required for the roof covering recover installation. A Texas Department of Insurance appointed engineer must review the data to verify the integrity of the existing roof deck and to compare results of the withdrawal tests with the minimum fastener requirements for the roof covering recover application.

The Texas Department of Insurance appointed engineer must document all test results, including the locations on the roof surface where the tests are performed. A minimum of ten withdrawal resistance tests are required for a roof area up to 50,000 square feet (a minimum of 50 percent of the tests must be conducted at the perimeter and the corners). Five additional tests are required for each additional 5,000 square feet of roof area or portion thereof (a minimum of 50 percent of the tests must be conducted at the perimeter and the corners). The tests must be located evenly spread across the surface of the roof. At least one withdrawal test must be performed on each roof level if the roof consists of multiple levels.

The withdrawal resistance of each tested fastener must comply with the minimum fastener requirements for the roof covering recover application. If a tested fastener fails to comply, then the Texas Department of Insurance appointed engineer must examine that area for deterioration of the roof deck by removing the existing roof covering in that area. If that area of the roof deck has deteriorated, then the deteriorated roof deck must be replaced.

Existing Roof Covering Preparation: The existing roof covering must be prepared to receive the roof covering recover as specified in the Tremco installation instructions.

The existing roof covering surface must be dry and free of dirt and debris. If the existing roof covering is gravel surfaced, then the loose gravel must be completely removed. The surface of the existing roof covering must be relatively smooth.

If the existing roof covering has blisters, buckles, ridges, folds, or other deformations, then they must be removed and the surface patched to provide a smooth surface. If the existing roof covering has loose fasteners, then the existing membrane must be cut open, the loose fasteners removed, and the surface patched to provide a smooth surface.

Roof Covering Recover Installation: Installation of the roof covering recover must be specified in the Installation Instructions section of this evaluation report.

The following notes apply to the systems outlined herein:

1. The roof decking must meet or exceed the uplift requirements of the IRC and IBC along with applicable Texas Revisions adopted by TDI. Install as required for resistance to wind loads.
2. Roof framing members must be spaced a maximum of 24" o.c.
3. Unless otherwise noted, insulation adhesive application rates are as follows. Ribbon or bead width is at the time of application; the ribbons/beads must expand as noted in the manufacturer's published instructions.
    - Tremco Low Rise Foam Insulation Adhesive [LRFIA] in continuous 3/4" wide ribbons, 6" or 12" o.c. Note: Millennium One Step Foamable Adhesive, Tremco Low Rise Green Foam Insulation Adhesive or Millennium One Step Green Foamable Adhesive may be used wherever LRFIA is referenced.
    - Tremco Low Rise Foam Insulation Adhesive (BG) [LRFIA (BG)] in continuous 3/4" wide ribbons, 6" or 12" o.c. Note: Millennium PG-1 Pump Grade Adhesive may be used wherever LRFIA (BG) is referenced.
    - Tremco LR Adhesive [LRA] in continuous 3/4" wide ribbons, 6" or 12" o.c. Note: Millennium PG-1 Pump Grade Adhesive may be used wherever LRA is referenced.
    - Note: When multiple layers of insulation and/or coverboard are installed in ribbon-applied adhesive, boards must be staggered from layer-to-layer.

- Note: The maximum edge distance from the adhesive ribbon to the edge of the insulation board must be not less than one-half the specified ribbons spacing.

4. Unless otherwise noted, all insulations are flat stock or taper board of the minimum thickness noted within this evaluation report.

APPENDIX 1: ATTACHMENT REQUIREMENTS FOR WIND UPLIFT RESISTANCE					
Table	**Deck**	**Assembly No.**	**Application**	**Description**	**Page**
2A	Wood	W-1 & W-2	New, Reroof (Tear-Off) or Recover	Insulated, Mechanically Attached POWERFAST, Bonded Roof Cover	6
2B	Wood	W-3 & W-4	New, Reroof (Tear-Off) or Recover	Non-Insulated, Mechanically Attached POWERFAST, Bonded Roof Cover	7
3A	Steel or Concrete	SC-1 through SC-3	New, Reroof (Tear-Off) or Recover	Mechanically Attached Base Insulation, Bonded Top Insulation, Bonded Roof Cover	7
3A	Steel	S-1	New, Reroof (Tear-Off) or Recover	Mechanically Attached Base Insulation, Bonded Top Insulation, Bonded Roof Cover	8
3B	Steel or Concrete	SC-4	New, Reroof (Tear-Off) or Recover	Mechanically Attached Insulation, Bonded Roof Cover	9
3B	Steel	S-2	New, Reroof (Tear-Off) or Recover	Mechanically Attached Insulation, Bonded Roof Cover	9
3C	Steel	S-3 through S-7	New, Reroof (Tear-Off) or Recover	Insulated, Mechanically Attached POWERFAST, Bonded Roof Cover	9-11
4A	Concrete	C-1	New or Reroof (Tear-Off)	Bonded Insulation, Bonded Roof Cover	11
4B	Concrete	C-2 & C-3	New or Reroof (Tear-Off)	Non-Insulated, Bonded Roof Cover	11-12
5A	LWC	LWC-1 through LWC-3	New or Reroof (Tear-Off)	LWC to Deck, Bonded Roof Cover	12-13
5B	LWC	LWC-4	New or Reroof (Tear-Off)	Temporary Roof to Deck, LWC to Temporary Roof, Bonded Roof Cover	14
6A	Gypsum	G-1	New or Reroof (Tear-Off)	Bonded Insulation, Bonded Roof Cover	14

5. Unless otherwise noted, fasteners and stress plates for insulation attachment must be as follows. Fasteners must be sufficient length for the following engagements:
Steel Deck: Tremco #1211 Fasteners or Tremco #1410 Fasteners with Tremco Disc 3 in. Steel Stress Plates or Tremco Disc Ribbed 3 in. Steel Stress Plates or OMG #12 Standard or OMG #14 Heavy Duty with OMG 3 in. Galvalume Steel Plates or 3 in. Ribbed Galvalume Plates, Trufast #12 DP or #14 HD Fasteners with Trufast 3" Metal Insulation Plates or Tremco #12 DP or #14 HD Fasteners with Tremco 3" Metal Insulation Plates. Minimum ¾" steel penetration and engage the top flute of the steel deck.
Structural Concrete: Tremco #1410 Fasteners with Tremco Disc 3 in. Steel Stress Plates or Tremco Disc Ribbed 3 in. Steel Stress Plates or OMG #14 Heavy Duty or CD-10 with OMG 3 in. Galvalume Steel Plates or 3 in. Ribbed Galvalume Plates, Trufast #14 HD Fasteners with Trufast 3" Metal Insulation Plates or Tremco #14 HD Fasteners with Tremco 3" Metal Insulation Plates. Minimum 1.25" embedment. Fasteners installed with a pilot hole in accordance with the fastener manufacturer's published installation instructions.

6. Unless otherwise noted, refer to the following references for bonded base, ply or cap sheet applications.
7. Approved membrane combinations and applications, See Table 1 below:

TABLE 1: TREMCO ROOF COVERS	
Reference	**Material**
BP-CA2	BURmastic Composite Ply HT, BURmastic Composite Ply Premium, BURmastic Composite Ply Supreme applied in BURmastic Adhesive SF at full coverage, 2.0 gal/sq.
AlphaGuard™ BIO Fluid Applied Roof System	AlphaGuard™ BIO Base Coat applied at a rate of 3 gal/sq., followed by AlphaGuard™ Glass Mat or AlphaGuard™ Polyester Mat wet-laid into the base coat providing 4" wide laps. AlphaGuard™ BIO Top Coat is applied at a rate of 2 gal/sq. Unless otherwise noted, the use of Glass Mat or Polyester Mat is optional when installed over a Tremco modified bitumen base membrane. An optional additional coat of AlphaGuard™ BIO Top coat to 20 mil wet-film thickness, with 20-40 mesh silica scan broadcast at 10-15 lbs/sq., and back-rolled into freshly applied non-skid coat may be applied for non-skid applications. Refer to Tremco Incorporated published installation instructions for dry-times between coats.

8. Vapor barrier options for use over **structural concrete deck** followed by adhered insulation carry the following Maximum Design Pressure (MDP) limitations. The lesser of the MDP listings below vs. those in **Table 4A** applies.

VAPOR BARRIER OPTIONS				
Primer	**Vapor Barrier**	**Attach**	**Insulation Adhesive**	**Design Pressure (psf)**
TREMprime WB Primer	BURmastic Composite Ply HT, BURmastic Composite Ply Premium, BURmastic Supreme Composite Ply, BURmastic Composite Ply HT Green, BURmastic Composite Ply Premium Green	BURmastic Adhesive SF at 2 gal/square	LRFIA(BG) or LRA, 12-inch o.c.	-180.0 3051558, Conclusion 9.1.2.1.1
None	BURmastic Composite Ply HT, BURmastic Composite Ply Premium, BURmastic Supreme Composite Ply, BURmastic Composite Ply HT Green, BURmastic Composite Ply Premium Green	BURmastic Adhesive SF at 2 gal/square	LRFIA(BG) or LRA, 12-inch o.c.	-182.5 SC6775.11.15-09-1, Sample 1
TREMprime WB Primer	BURmastic Composite Ply HT, BURmastic Composite Ply Premium, BURmastic Supreme Composite Ply, BURmastic Composite Ply HT Green, BURmastic Composite Ply Premium Green	BURmastic Adhesive SF at 2 gal/square	LRFIA, 12-inch o.c.	-202.5 3051558, Conclusion 9.1.2

Limitations and Installation: Installation must be in accordance with the following assemblies:

TABLE 2A: TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER WOOD DECK, INSULATED, MECHANICALLY ATTACHED POWERFAST, BONDED ROOF COVER								
Assembly No.	**Substrate**	**Slip Sheet**	**Insulation and/or Thermal Barrier**	**PowerFAST Sheet**			**Roof Cover[1]**	
				Type	**Fasteners**	**Spacing**	**Base**	**LARS**
#1 (W-1)	Min. 15/32" Plywood	(Optional) UL Certified Type G2 base sheet (ASTM D4601, Type II), loose laid	One or more layers, any combination, preliminarily attached	POWERply 300 Smooth or POWERply HE Smooth	Trufast #15 EHD or Tremco #15 EHD with Trufast 2" Barbed Metal Seam Plates or Tremco 2" Barbed Seam Plates	18" o.c. within the 4" wide, torched, heat welded sealed side laps	None	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)	**Insulation Attachment**							
-45.0	Preliminarily Attached							

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 2A (CONTINUED): TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER WOOD DECK, INSULATED, MECHANICALLY ATTACHED POWERFAST, BONDED ROOF COVER								
Assembly No.	**Substrate**	**Base Insulation Layer**	**Top Insulation Layer**	**PowerFAST Sheet**			**Roof Cover[1]**	
				Type	**Fasteners**	**Spacing**	**Base**	**LARS**
#2 (W-2)	Min. 15/32" Plywood	One or more layers, any combination, preliminarily attached	(Optional) Min. 1" polyiso or mineral wool insulation board, min. ½" High Density Wood Fiberboard, ¼" Gypsum-Based coverboard or min. 1/8" asphalt coverboard, preliminarily attached	POWERply HE Smooth	Trufast #14 HD or Tremco #14 HD with Trufast Recessed Batten Bar	6" o.c. within the 4" wide, torched, heat welded, BURmastic Adhesive SF or Tremco LF Adhesive sealed side laps	None	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)	**Insulation Attachment**							
-60.0	Preliminarily Attached							

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 2B: TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER WOOD DECK, NON-INSULATED, MECHANICALLY ATTACHED POWERFAST, BONDED ROOF COVER							
Assembly No.	**Substrate**	**Slip Sheet**	**PowerFAST Sheet**			**Roof Cover[1]**	
			Type	**Fasteners**	**Spacing**	**Base**	**LARS**
#3 (W-3)	Min. 15/32" Plywood	(Optional) UL Certified Type G2 base sheet (ASTM D4601, Type II), loose laid	POWERply 300 Smooth or POWERply HE Smooth	Trufast #15 EHD or Tremco #15 EHD with Trufast 2" Barbed Metal Seam Plates or Tremco 2" Barbed Seam Plates	18" o.c. within the 4" wide, torched, heat welded sealed side laps	None	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Insulation Attachment**					
-45.0		N/A					

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 2B (CONTINUED): TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER WOOD DECK, NON-INSULATED, MECHANICALLY ATTACHED POWERFAST, BONDED ROOF COVER						
Assembly No.	**Substrate**	**PowerFAST Sheet**			**Roof Cover[1]**	
		Type	**Fasteners**	**Spacing**	**Base**	**LARS**
#4 (W-4)	Min. 15/32" Plywood	POWERply HE Smooth	Trufast #14 HD or Tremco #14 HD with Trufast Recessed Batten Bars	6" o.c. within the 4" wide, torched, heat welded, BURmastic Adhesive SF or Tremco LF Adhesive (aka, POWERply 2K Lap Adhesive) sealed side laps	None	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Insulation Attachment**				
-60.0		N/A				

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 3A: TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER STEEL OR CONCRETE DECK, MECHANICALLY ATTACHED BASE INSULATION, BONDED TOP INSULATION, BONDED ROOF COVER									
Assembly No.	**Substrate**	**Base Insulation Layer**			**Top Insulation Layer**		**Roof Cover[1]**		
		Type	**Fastener**	**Attach**	**Type**	**Attach**	**Base**	**Primer**	**LARS**
#5 (SC-1)	Min. 22 ga., Type B, Grade 33 Steel or Structual Concrete	Min. 1.5" Trisotech G, ACFoam-II	Note 6	1 per 2 ft²	Min. ½" Structodek High Density Fiberboard Roof Insulation, DensDeck Prime, DEXcell FA Glass Mat Roof Board, SECUROCK Gypsum-Fiber Roof Board, SECUROCK Cement Roof Board	LRFIA, LRFIA(BG) or LRA, 12" o.c.	BP-CA2	(Optional) AlphaGuard WB Primer applied at a rate of 0.4 to 0.5 gal/sq.	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Top Insulation Attachment**							
-45.0		LRFIA, LRFIA(BG) or LRA in continuous ¾" wide ribbons, 12" o.c.							

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 3A (CONTINUED): TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER STEEL OR CONCRETE DECK, MECHANICALLY ATTACHED BASE INSULATION, BONDED TOP INSULATION, BONDED ROOF COVER									
Assembly No.	**Substrate**	**Base Insulation Layer**			**Top Insulation Layer**		**Roof Cover[1]**		
		Type	**Fastener**	**Attach**	**Type**	**Attach**	**Base**	**Primer**	**LARS**
#6 (SC-2)	Min. 22 ga., Type B, Grade 33 Steel or Structual Concrete	Min. 2" Trisotech G, ACFoam-II	Note 6	1 per 1.33 ft²	½" SECUROCK Gypsum-Fiber Roof Board	LRFIA, LRFIA(BG) or LRA	BP-CA2	(Optional) AlphaGuard WB Primer applied at a rate of 0.4 to 0.5 gal/sq.	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Top Insulation Attachment**							
-75.0		LRFIA, LRFIA(BG) or LRA in continuous ¾" wide ribbons, 12" o.c.							

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 3A (CONTINUED): TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER STEEL OR CONCRETE DECK, MECHANICALLY ATTACHED BASE INSULATION, BONDED TOP INSULATION, BONDED ROOF COVER									
Assembly No.	**Substrate**	**Base Insulation Layer**			**Top Insulation Layer**		**Roof Cover[1]**		
		Type	**Fastener**	**Attach**	**Type**	**Attach**	**Base**	**Primer**	**LARS**
#7 (SC-3)	Min. 22 ga., Type B, Grade 80 Steel or Structural Concrete	Min. 2" Trisotech G, ACFoam-II	Note 6	1 per 1 ft²	½" SECUROCK Cement Roof Board	LRFIA, LRFIA(BG) or LRA, 6" o.c.	None	N/A	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Top Insulation Attachment**							
-127.5		LRFIA, LRFIA(BG) or LRA in continuous ¾" wide ribbons, 6" o.c.							

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 3A (CONTINUED): TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER STEEL DECK, MECHANICALLY ATTACHED BASE INSULATION, BONDED TOP INSULATION, BONDED ROOF COVER									
Assembly No.	**Substrate**	**Base Insulation Layer**			**Top Insulation Layer**		**Roof Cover[1]**		
		Type	**Fastener**	**Attach**	**Type**	**Attach**	**Base**	**Primer**	**LARS**
#8 (S-1)	Min. 22 ga., Type B, Grade 33 Steel	Min. 2" Trisotech G, ACFoam-II	Note 6	1 per 1 ft²	1/2" SECUROCK Cement Roof Board	LRFIA, LRFIA(BG) or LRA, 6" o.c.	None	N/A	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Top Insulation Attachment**							
-82.5		LRFIA, LRFIA(BG) or LRA in continuous ¾" wide ribbons, 6" o.c.							

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 3B: TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER STEEL OR CONCRETE DECK, MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER								
Assembly No.	**Substrate**	**Base Insulation Layer**	**Top Insulation Layer**			**Roof Cover[1]**		
			Type	**Fastener**	**Attach**	**Base**	**Primer**	**LARS**
#9 (SC-4)	Min. 22 ga., Type B, Grade 80 Steel or Structural Concrete	Min. 1.5", one or more layers, any combination, loose laid	Min. ½" SECUROCK Cement Roof Board	Note 6	1 per 1 ft²	None	N/A	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Base Insulation Attachment**						
-150.0		Loose Laid						

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 3B (CONTINUED): TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER STEEL DECK, MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER								
Assembly No.	**Substrate**	**Base Insulation Layer**	**Top Insulation Layer**			**Roof Cover[1]**		
			Type	**Fastener**	**Attach**	**Base**	**Primer**	**LARS**
#10 (S-2)	Min. 22 ga., Type B, Grade 33 Steel	Min. 1.5", one or more layers, any combination, loose laid	Min. ½" SECUROCK Cement Roof Board	Note 6	1 per 1 ft²	None	N/A	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Base Insulation Attachment**						
-82.5		Loose Laid						

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 3C: TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER STEEL DECK, INSULATED, MECHANICALLY ATTACHED POWERFAST, BONDED ROOF COVER							
Assembly No.	**Substrate**	**Insulation and/or Thermal Barrier**	**PowerFAST Sheet**			**Roof Cover[1]**	
			Type	**Fasteners**	**Spacing**	**Base**	**LARS**
#11 (S-3)	Min. 22 ga., Type B, Grade 40 Steel	(Optional for recover) One or more layers, any combination, preliminarily attached	POWERply HE Smooth	Trufast #15 EHD or Tremco #15 EHD with Trufast 2" Barbed Metal Seam Plates, Tremco 2" Barbed Seam Plates, Trufast 2.4" Scoop Seam Plates, Trufast 2.4" Barbed Metal Seam Plates or Tremco 2.4" Barbed Seam Plates	24" o.c. within the min. 4" wide (for 2" plate) or min. 5" wide (for 2.4" plate), torched or heat-welded side laps	None	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Insulation Attachment**					
-45.0		Preliminarily Attached					

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 3C (CONTINUED): TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER STEEL DECK, INSULATED, MECHANICALLY ATTACHED POWERFAST, BONDED ROOF COVER							
Assembly No.	**Substrate**	**Base Insulation Layer**	**PowerFAST Sheet**			**Roof Cover[1]**	
			Type	**Fasteners**	**Spacing**	**Base**	**LARS**
#12 (S-4)	Min. 22 ga., Type B, Grade 40 Steel	One or more layers, any combination, preliminarily attached	POWERply 300 Smooth or POWERply HE Smooth	Trufast #15 EHD or Tremco #15 EHD with Trufast 2.4" Barbed Metal Seam Plates or Tremco 2.4" Barbed Seam Plates	12" o.c. within the 5" wide, BURmastic Adhesive SF sealed side laps	None	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Insulation Attachment**					
-52.5		Preliminarily Attached					

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 3C (CONTINUED): TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER STEEL DECK, INSULATED, MECHANICALLY ATTACHED POWERFAST, BONDED ROOF COVER							
Assembly No.	**Substrate**	**Insulation and/or Thermal Barrier**	**PowerFAST Sheet**			**Roof Cover[1]**	
			Type	**Fasteners**	**Spacing**	**Base**	**LARS**
#13 (S-5)	Min. 22 ga., Type B, Grade 40 Steel	(Optional) One or more layers, any combination, preliminarily attached	POWERply HE Smooth	Trufast #15 EHD or Tremco #15 EHD with Trufast Flat Batten Bars or Trufast Recessed Batten Bars	12" o.c., within the 4" wide, torched or heat-welded side laps	None	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Insulation Attachment**					
-60.0		Preliminarily Attached					

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 3C (CONTINUED): TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER STEEL DECK, INSULATED, MECHANICALLY ATTACHED POWERFAST, BONDED ROOF COVER							
Assembly No.	**Substrate**	**Insulation and/or Thermal Barrier**	**PowerFAST Sheet**			**Roof Cover[1]**	
			Type	**Fasteners**	**Spacing**	**Base**	**LARS**
#14 (S-6)	Min. 22 ga., Type B, Grade 40 Steel	One or more layers, any combination, preliminarily attached	POWERply 300 Smooth or POWERply HE Smooth	Trufast #15 EHD or Tremco #15 EHD with Trufast Recessed Batten Bars	6" o.c. within the 4" wide, heat-welded or BURmastic Adhesive SF sealed side laps	None	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Insulation Attachment**					
-75.0		Preliminarily Attached					

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 3C (CONTINUED): TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER STEEL DECK, INSULATED, MECHANICALLY ATTACHED POWERFAST, BONDED ROOF COVER							
Assembly No.	**Substrate**	**Insulation and/or Thermal Barrier**	**PowerFAST Sheet**			**Roof Cover[1]**	
			Type	**Fasteners**	**Spacing**	**Base**	**LARS**
#15 (S-7)	Min. 22 ga., Type B, Grade 40 Steel	(Optional for recover) One or more layers, any combination, preliminarily attached	POWERply Plus HT Smooth or POWERply 300 Smooth	Dekfast #15, Trufast #15 EHD or Tremco #15 EHD with Trufast Recessed Batten Bars	6" o.c. within the min. 4" wide, heat-welded side laps	None	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Insulation Attachment**					
-97.5		Preliminarily Attached					

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 4A: TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION OR REROOF (TEAR-OFF) CONCRETE DECK, BONDED INSULATION, BONDED ROOF COVER (FOR VAPOR BARRIER OPTIONS REFER TO NOTE 9)									
Assembly No.	**Substrate**	**Primer**	**Base Insulation Layer**		**Top Insulation Layer**		**Roof Cover[1]**		
			Type	**Attach**	**Type**	**Attach**	**Base**	**Primer**	**LARS**
#16 (C-1)	Min. 2,500 psi Structural Concrete	None	Min. 2" Trisotech G, ACFoam-II	LRFIA, LRFIA(BG) or LRA	½" SECUROCK Gypsum-Fiber Roof Board	LRFIA, LRFIA(BG) or LRA	BP-CA2	(Optional) AlphaGuard WB Primer applied at a rate of 0.4 to 0.5 gal/sq.	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Insulation Attachment**							
-285.0		LRFIA, LRFIA(BG) or LRA in continuous 3/4" wide ribbons, 12" o.c.							

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 4B: TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION OR REROOF (TEAR-OFF) CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER					
Assembly No.	**Substrate**	**Primer**	**Roof Cover[1]**		
			Base	**Primer**	**LARS**
#17 (C-2)	Min. 2,500 psi Structural Concrete	AlphaGuard C-Prime applied at a rate of 200-250 ft^2/gal.	None	None	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Insulation Attachment**			
-495.0		N/A			

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 4B (CONTINUED): TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION OR REROOF (TEAR-OFF) CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER					
Assembly No.	**Substrate**	**Primer**	**Roof Cover[1]**		
			Base	**Primer**	**LARS**
#18 (C-3)	Min. 2,500 psi Structural Concrete	TREMprime WB Primers	BP-CA2	(Optional) AlphaGuard WB Primer applied at a rate of 0.4 to 0.5 gal/sq.	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Insulation Attachment**			
-495.0		N/A			

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 5A: TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION OR REROOF (TEAR-OFF) LIGHTWEIGHT CONCRETE DECK, BONDED ROOF COVER									
Assembly No.	**Substrate**	**LWC**				**Treatment**	**Primer**	**Roof Cover[1]**	
		Deck Treatment	**LWC**	**Sealer**	**Surfacing**			**Base**	**LARS**
#19 (LWC-1)	Min. 22 ga., Type BV, Grade 33 Steel	Celcore S-1 Deck Preparation Slurry	Min. 319 psi, Min. 2” thick Celcore Cellular Concrete	Celcore PVA Curing Compound	Celcore SBS (Sanded Bonding Surface) at 1 gal/sq.	(Optional when Primer used) Aquafin	(Optional when Treatment used) AlphaGuard C-Prime applied at a rate of 200-250 ft^2/gal.	None	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Insulation Attachment**							
-67.5		N/A							

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 5A (CONTINUED): TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION OR REROOF (TEAR-OFF) LIGHTWEIGHT CONCRETE DECK, BONDED ROOF COVER									
Assembly No.	**Substrate**	**LWC**				**Treatment**	**Primer**	**Roof Cover[1]**	
		Deck Treatment	**LWC**	**Sealer**	**Surfacing**			**Base**	**LARS**
#20 (LWC-2)	Min. 22 ga., Type BV, Grade 40 Steel	Celcore S-1 Deck Preparation Slurry	Min. 447 psi, Min. 2” thick Celcore MF Cellular Concrete with Celcore HS Rheology Modifying Admixture	Celcore PVA Curing Compound at 0.3 gal/sq.	Celcore SBS (Sanded Bonding Surface) at 1 gal/sq.	(Optional when Primer used) Aquafin	(Optional when Treatment used) AlphaGuard C-Prime applied at a rate of 200-250 ft^2/gal.	None	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Insulation Attachment**							
-97.5		N/A							

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 5A (CONTINUED): TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION OR REROOF (TEAR-OFF) LIGHTWEIGHT CONCRETE DECK, LWC TO DECK, BONDED ROOF COVER									
Assembly No.	**Substrate**	**LWC**				**Treatment**	**Primer**	**Roof Cover[1]**	
		Deck Treatment	**LWC**	**Sealer**	**Surfacing**			**Base**	**LARS**
#21 (LWC-3)	Structural Concrete	Celcore S-1 Deck Preparation Slurry	Min. 319 psi, Min 2” thick, Celcore MF Cellular Concrete with Celcore HS Rheology Modifying Admixture	Celcore PVA Curing Compound	Celcore SBS (Sanded Bonding Surface) at 1 gal/square	(Optional when Primer used) Aquafin	(Optional when Treatment used) AlphaGuard C-Prime applied at a rate of 200-250 ft^2/gal.	None	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Insulation Attachment**							
-475.0		N/A							

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 5B: TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION OR REROOF (TEAR-OFF) LIGHTWEIGHT CONCRETE DECK, TEMP ROOF TO DECK, LWC TO TEMP ROOF, BONDED ROOF COVER										
Assembly No.	**Substrate**	**Temp Roof / Vapor Barrier**	**LWC**				**Treatment**	**Primer**	**Roof Cover[1]**	
			Treatment	**LWC**	**Sealer**	**Surfacing**			**Base**	**LARS**
#22 (LWC-4)	Structural Concrete, ASTM D41 primed	POWERply APP Base Sheet, torch-applied	Celcore S-1 Deck Preparation Slurry	Min. 319 psi, Min. 2" thick Celcore Cellular Concrete with Celcore HS Rheology Modifying Admixture	Celcore PVA Curing Compound	Celcore SBS (Sanded Bonding Surface) at 1 gal/square	(Optional when Primer used) Aquafin	(Optional when Treatment used) AlphaGuard C-Prime applied at a rate of 200-250 ft^2/gal.	None	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Insulation Attachment**								
-385.0		N/A								

Footnote 1: For roof cover installation, refer to Table 1 above.

TABLE 6A: TREMCO ALPHAGUARD BIO – NEW CONSTRUCTION OR REROOF (TEAR-OFF) GYPSUM DECK, BONDED INSULATION, BONDED ROOF COVER								
Assembly No.	**Substrate**	**Base Insulation Layer**		**Top Insulation Layer**		**Roof Cover[1]**		
		Type	**Attach**	**Type**	**Attach**	**Base**	**Primer**	**LARS**
#23 (G-1)	Existing poured gypsum or gypsum plank	Min. 2" Trisotech G, ACFoam-II	LRFIA, LRFIA(BG) or LRA	Min. 1/4" SECUROCK Gypsum-Fiber Roof Board	LRFIA, LRFIA(BG) or LRA	BP-CA2	(Optional) AlphaGuard WB Primer applied at a rate of 0.4 to 0.5 gal/sq.	AlphaGuard BIO Fluid Applied Roof System
Design Pressure (psf)		**Insulation Attachment**						
-182.5		LRFIA, LRFIA(BG) or LRA in continuous ¾" wide ribbons, 12" o.c.						

Footnote 1: For roof cover installation, refer to Table 1 above.

Note: Keep the manufacturer's installation instructions available on the job site during the installation. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.